SHEIKOVA, G.; GEORGIEVA, J.

Actinomycetes-antagonists isolated from Bulgarian soils.
Folia microbiol. 8 no.5:308-312 '63.

1. Research Institute of Pharmaceutical Chemistry, Sofia.
            (ACTINOMYCETES)   (PLANTS, MEDICINAL)
                  (SOIL MICROBIOLOGY)

GEORGIEVA, J.; SHEIKOVA, G.

Vitamin B12 formation from various actinomycetes isolated
from Bulgarian soils. Folia microbiol. 8 no.5:322-324 '63.

1. Research Institute of Pharmaceutical Chemistry, Sofia.
        (VITAMIN B 12)   (ACTINOMYCETES)
        (SOIL MICROBIOLOGY)   (METABOLISM)

SHEIN, A.A. (Syktyvkar)

Historical evaluation of the psychological conceptions. Vop.
psikhol. 6 no.5:133-137 S-O '60.   (MIRA 13:11)
          (Lange, Nikolai Nikolaevich, 1858-1921)

SHEIN, A.A.

V.M. Bekhterev as a representative of materialistic psychology.
Vop. psikhol. 9 no.5:152-158 S-O '63.   (MIRA 17:2)

1. Pedagogicheskiy institut. Syktyvkar.

SHEIN, A.A.

Pavel Petrovich Blonskii, 1884-1941 as a psychologist. Vop.
psikhol. 10 no.3:29-39 My-Je '64.   (MIRA 17:9)

1. Komi gosudarstvennyy pedagogicheskiy institut, Syktyvkar.

SHEIN, A.A.

    L.S. Vygotskiy's early psychological research. Vop. psikhol.
11 no.6:7-15 N-D '65.
                               (MIRA 19:1)

1. Komi gosudarstvennyy pedagogicheskiy institut, Syktyvkar.

TERESHCHENKO, A.T.; SHEIN, A.G.

Dispersion equations of the ring systems of separate rectangular wave guides. Izv.vys.ucheb.zav.; radiotekh. 8 no.5:538-544, S-0 '65. (MIRA 18:12)

1. Submitted July 29, 1963.

39250
S/141/62/005/002/012/025
E192/E382

9.4210

AUTHOR: Tereshchenko, A.I. and Shein, A.G.

TITLE: Study of a magnetron anode unit with resonators
            having a pendant-shaped transverse cross-section

PERIODICAL: Investiya vysshikh uchebnykh zavedeniy,
            Radiofizika, v. 5, no. 2, 1962, 311 - 318

TEXT: The shape of resonators normally used in magnetrons
does not provide the optimum operating conditions and it would
be extremely difficult to determine an analytical formula
describing the optimum shape. However, an unconventionally-
shaped resonator suggested in the patent of P.L. Spenser
(USA Patent No. 2410396, 1946) seems to offer new possibilities.
The resonator is illustrated in Fig. 1. This is in the shape of
a pendant whose boundary in cylindrical coordinates is described
by:

$$r_\varphi = \frac{1}{\sin \varphi} \left[\cos \varphi + \sqrt{\sin(\delta - \varphi)\sin(\delta + \varphi)} \right] \qquad (1).$$

Card 1/4

Study of a magnetron ,..

S/141/62/005/002/012/025
E192/E382

The solutions of the Maxwell equations for this cylindrical system can be found comparatively easily but determination of the unknown constants in these equations leads to an infinite system of linear equations whose parameters are defined by considering the boundary conditions on the resonator walls. However, in practice, it is sufficient to take into account only a few terms of these equations. The most important parameter for the anode unit consisting of pendant-shaped resonators are its resonant frequencies. These can be determined from the resonance condition of the system:

$$Y_n + Y_r = 0 \qquad (7)$$

where Y_n is the admittance of the interaction space at the input of a resonator, and

Y_r is the admittance of the resonator at $r = a$.

The first and second approximations for the resonant frequencies of a magnetron with 3 resonators are determined and the results are plotted in graphs. These are compared with some experimental

Card 2/4

Study of a magnetron ....

S/141/62/005/002/012/025
E192/E382

data. It is found that for the π-mode the maximum discrepancy between the theory and experimental results does not exceed 5% for the first approximation and 1.5% for the second. The frequency separation for the π-mode and $(N-1)/2$-mode is of the order of 2%, while the calculated value is 1.6%. On the other hand, the frequency separation for the same modes in a standard anode-resonator unit is only 0.9%. The pendant-shaped resonators thus have the advantage that the separation of the frequencies between the π-mode and a neighbouring mode is greater than that of a standard resonator. Secondly, the pendant-shaped resonator has an increased quality factor which is due to its large volume-surface ratio. There are 4 figures.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet
                (Khar'kov State University)

SUBMITTED: July 13, 1961

Card 3/4 7

TERESHCHENKO, A.I.; SHEIN, A.G.

Magnetron-type anode block with resonators with elliptical cross
section. Izv. vys. ucheb. zav.; radiofiz. 6 no.1:119-125 '63.
(MIRA 16:7)

1. Khar'kovskiy gosudarstvennyy universitet.
(Electric resonators) (Magnetrons) (Microwaves)

L 18390-63   BDS

ACCESSION NR: AP3003730   S/0109/63/008/007/1274/1276   4.7

AUTHOR: Tereshchenko, A. I.; Shein, A. G.

TITLE: Effect of resonator cross section shape on the characteristics of magnetron type anode units

SOURCE: Radiotekhnika i elektronika, v. 8, no. 7, 1963, 1274-1276

TOPIC TAGS: resonator, magnetron anode

ABSTRACT: Theoretical and experimental investigation of the following resonator types is reported: slot, hole-and-slot, paddle, drop-shaped, and elliptical. By solving a planar isoperimetric problem and by using the method of conformal mapping, optimum shape of the resonator is found, and the practical shapes are compared with it. The conclusion is offered that using near-optimum resonators (drop-shaped and elliptical) enhances magnetron-oscillation stability and separation of frequencies; the latter fact may permit relinquishing magnetron strips in

Card 1/2

L 18390-63
ACCESSION NR: AP3003730 .   D

some cases. Orig. art. has: 2 figures, 3 formulas, and 1 table.

ASSOCIATION: none

SUBMITTED: 24Nov62   DATE ACQ: 02Aug63   ENCL: 00

SUB CODE: GE   NO REF SOV: 003   OTHER: 002

Card 2/2

LYAPUNOV, N.V.; SHEIN, A.G.; TERESHCHENKO, A.I.

Calculation of nonuniformities in waveguides using the Lorentz
lemma. Izv. vys. ucheb. zav.; radiotekh. 8 no.1:11-17 Ja-F '65.

(MIRA 18:5)

L 00843-66   EWT(1)/EEC-4/EWA(h)

ACCESSION NR: AP5015809   UR/0109/65/010/006/1029/1037
                                     621.385.6.032.266:621.372.8
                                                                //
AUTHOR: Tereshchenko, A. I.; Shein, A. G.   /3

TITLE: Septate waveguide of cross-shaped cross-section as a delay system

SOURCE: Radiotekhnika i elektronika, v. 10, no. 6, 1965, 1029-1037

TOPIC TAGS: septate waveguide, cross shaped waveguide, delay system
                                                     25

ABSTRACT: A cross-shaped waveguide, see Enclosure 1, potentially suitable for high-
power TW tubes is considered. A dispersion equation describing the cross-shaped-
waveguide delay system is developed for cophasal LE-modes, by the method of
joining the fields at boundaries of simple regions. A formula for the system
coupling resistance is derived. The dispersion characteristics and the coupling
resistance were numerically calculated on a "Minsk-14" computer; the system has
positive dispersion at the fundamental harmonic. Both theoretical and experimental
results indicate that the cross-shaped delay line has a number of advantages:
a rather wide passband (as compared to the clover-leaf and rectangular septate
waveguides) and a high coupling resistance (1500--2000 ohms at $\beta D = 2\pi/6$ and
60--70 ohms at $\beta D = \pi$). Also the experiments have confirmed the validity of

Card 1/3

L 00843-66

ACCESSION NR: AP5015809

formulas. Orig. art. has: 4 figures, 32 formulas, and 1 table.

ASSOCIATION: none

SUBMITTED: 06Apr64   ENCL: 01   SUB CODE: EC

NO REF SOV: 006   OTHER: 004

Card 2/3

ACCESSION NR: AP5013809   ENCLOSURE: 1
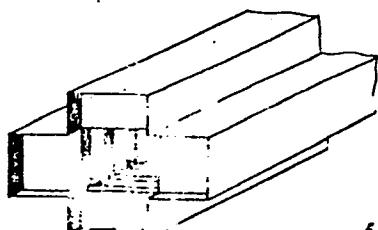
Cross-shaped sep ata waveguide

as a delay system

Card 3/3

L 17546-66

AUTHOR: Tereshchenko, A. I.; Shein, A. G.

ORG: none

TITLE: Dispersion equations of toroids formed from septate rectangular waveguides

SOURCE: IVUZ. Radiotekhnika, v. 8, no. 5, 1965, 538-544

TOPIC TAGS: rectangular waveguide, delay system

ABSTRACT: By applying a field-joining method to the boundaries of simple regions, a dispersion equation is developed for a delay system (toroid) formed by bending a rectangular septate waveguide in the TE-plane. The dispersion equation for a waveguide bent in the E-plane (see Fig. 1a) has been developed elsewhere. The problem of propagation of co-phasal LE-modes in the TE-plane-bent waveguide (Fig. 1b)
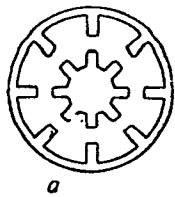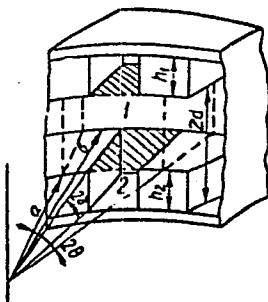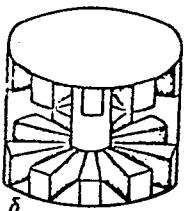
Fig. 1   Fig. 2

Card 1/2   UDC: 621.572.85

L 17546-66

ACC NR: AP6000519   O

is solved by subdividing the system into interaction space 1 and resonator regions 2
and 3 (Fig. 2). The final dispersion equation is given in this form:

$$\frac{\lg \sigma}{\sigma} = \frac{1}{u}\left(\frac{\sin m\delta}{\sin m\theta}\right)\frac{\psi_1 \operatorname{ctg} \psi_1 \left(\frac{m}{\chi_{m1}}\right)^2 - \frac{R_m \Gamma_m}{\rho_{m1}^2}\, \psi_2 \operatorname{ctg} \psi_2}{\left(\frac{m}{\chi_{m1}}\, \xi\right)^2 - \frac{R_m \Gamma_m}{\rho_{m1}^2}(\xi^2 - w^2 \rho_{m1}^2)},$$

By using this equation with certain
approximations, the dispersion character-
istics of the TE-plane-bent waveguide
toroid are calculated, and it is shown that
such a toroid has positive dispersion at the fundamental spatial harmonic in the first
transparent zone. Orig. art. has: 3 figures, 28 formulas, and 1 table.

SUB CODE: 09 / SUBM DATE: 29Jul63 / ORIG REF: 007

Card 2/2

SHEIN, Anatoliy Ivanovich; NIGEY, Fedor Mefod'yevich: REZNIKOV,Yu.,
    red.

    Karatau. Alma-Ata, Izd-vo Kazakhstan, 1965. 81 p.
                                        (MIRA 18:6)

KHORBENKO, Ivan Grigor'yevich; SHEIN, A.S., doktor fiz.-mat. nauk,
retsenzent; ANTONOVA, S.D., red.

[In the world of inaudible sounds] V mire neslyshimykh zvukov.
Moskva, Mashinostroenie, 1964. 120 p.   (MIRA 17:4)

SHEIN, A.V.; GUTIN, N.D.; VERSHININA, A.I.

At the Central Complex Laboratory of the Ural Geological Administra-
tion. Zav.lab. 28 no.8:1013-1014 '62.   (MIRA 15:11)
                (Ural Mountain region--Chemical laboratories)
                        (Minerals--Analysis)

SULEYMANOV, M.S.; SHEIN, D.V.

The quality of the ores of nonferrous metals and the profitable-
ness of production. Gor. zhur. no.1:28-31 Ja '64.   (MIRA 17:3)

1. Upravleniye Vostochno-Kazakhstanskogo okruga Gosudarstvennogo
komiteta pri Sovete Ministrov Kazakhskoy SSR po nadzoru za bezo-
pasnym vedeniyem rabot v promyshlennosti i gornomu nadzoru.

SHEIN, D.V., inzh.; KARPOV, V.M., inzh.; POLYANIN, M.A., inzh.

At mining enterprises of eastern Kazakhstan. Bezop. truda
v prom. 8 no.9:30-31 S '64   (MIRA 18:1)

1. Upravleniye Vostochno-Kazakhstanskogo okruga Gosudarstven-
nogo komiteta pri Sovete Ministrov Kazakhskoy SSR po nadzoru
za bezopasnym vedeniyem rabot v promyshlennosti i gornomu nad-
zoru.

SUKHAREVSKIY, V. M., kand. tekhn. nauk; SHEIN, L. M., inzh.; VASILENKO,
    V. P., inzh.; DRANITSYN, Ye. S., inzh.; STARUSHCHENKO, A. S.,
    nauchnyy sotrudnik

    Role of wetting and the moisture regime of coal in the massif.
    Ugol' Ukr. 7 no.4:42-43 Ap '63.   (MIRA 16:4)

    1. Institut gornogo dela AN UkrSSR (for Sukharevskiy, Shein,
    Vasilenko, Dranitsyn).

                    (Coal mines and mining)
                    (Mine dusts—Prevention)

SHEIN, N.I.

Handle for cranking elevators. Sbor. rats. predl. vnedr.
v proizv. no.2:17-18 '61.   (MIRA 14:7)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat,
Vysokogorskoye rudoupravleniye.
              (Elevators--Maintenance and repair)

KUDRITSKIY, R.; VOLKOV, A.; FOGEL', Z.; PODOBED, Yu.; TITOV, A.; SHEIN, R.; LITSITIS, Ya. [Licitis, J.]; OSTROVENETS, V.; SEMENTSOV, N.

Specialization is indispensable. Tekh. est. no.4:22-23 Ap '65.
(MIRA 18:6)

1. Spetsial'noye khudozhestvenno-konstruktorskoye byuro Kiyevskogo soveta narodnogo khozyaystva (for Kudritskiy, Volkov, Fogel'). 2. Spetsial'noye khudozhestvenno-konstruktorskoye byuro Soveta narodnogo khozyaystva Moskovskogo gorodskogo ekonomicheskogo rayona (for Podobed). 3. Spetsial'noye khudozhestvenno-konstruktorskoye byuro Soveta narodnogo khozyaystva Leningradskogo ekonomicheskogo rayona (for Titov). 4. Spetsial'noye khudozhestvenno-konstruktor-skoye byuro Sredne-Ural'skogo soveta narodnogo khozyaystva (for Shein). 5. Spetsial'noye khudozhestvenno-konstruktorskoye byuro Soveta narodnogo khozyaystva Latviyskoy SSR (for Litsitis, Ostro-venets, Sementsov).

SHEIN, R. A.

Artist in a design office. Mashinostroitel' no.10:40-41
0 '62.   (MIRA 15:10)

(Art and industry)

SHEIN, V.A.; BELOV, V.P.

Some means for lowering the expenditure of time and materials in
lost circulation. Izv. vys. ucheb. zav.; neft' i gaz 5 no.6:
111-114 '62.   (MIRA 16:5)

1. Kuybyshevskiy industrial'nyy institut imeni V.V.Kuybysheva.
              (Oil well drilling fluids) (Plastics)

SHEIN, V.A.; POLYANTSEV, I.S.

Determining the consolidated capital investment indices in oil fields. Nefteprom. delo no. 3:25-27 '64.   (MIRA 17:5)

1. Krasnodarskiy filial Vsesoyuznogo neftegazovogo nauchno-issledovatel'skogo instituta i Gosudarstvennyy institut po proyektirovaniyu predpriyatiy neftyanoy promyshlennosti vostochnykh i yuzhnykh rayonov SSSR.

SHEIN, V.A.; KHANTEYEV, V.G.

Method for the comparative technical-economic evaluation of
various methods of flooding. Nefteprom. delo no.3:30-34 '65.
(MIRA 18:10)

1. Krasnodarskiy filial Vsesoyuznogo neftegazovogo nauchno-
issledovatel'skiy instituta i Gosudarstvennyy institut po
proyektirovaniyu i issledovatel'skim rabotam neftedobyvayushchiy
promyshlennost' vostochnykh rayonov strany.

SOV/49-59-9-11/25

AUTHORS: Solov'yev, S. L. and Shein, V. E

TITLE: The Intensity of Earthquakes Based on Data of Soviet Far East-
         ern and Continental Stations of USSR

PERIODICAL: Izvestiya Akademii nauk, SSSR. Seriya geofizicheskaya,
         1959, Nr 9, pp 1375 to 1385 + 1 plate (USSR)

ABSTRACT: The intensity M was calculated from the formula $M = \lg A - \lg A^*$ where the function $\lg A^*$ characterises a mean rate of decrease of the ground displacement with distance which was empirically determined as

$$\lg A^* \approx - 1.20 - 1.25 \lg \Delta^\circ, \quad 1^\circ < \Delta < 100^\circ$$

for the regions extending from the Caucasus to the Middle Asia (Δ - epicentric distance). The results of calcula-
tions with $\pm$ 0.25 accuracy are tabulated in Tab 1, where the following data are included: Column 1 - date;
2 - time of earthquake; 3 and 4 - their co-ordinates;
5 - region; 6 - M_{mean}; 7 - number of stations taking part in determination of M_{mean}; 8 to 14 - $\delta M = M_{station}$ -
M_{mean}; 15 - mean δM. The results of calculation
of $M_{Far\ East}$ - $M_{Continental}$ = $\lg A_{F.E.}/A_{Cont.}$ determined

Card 1/2

S/V/49-59-9-11/25

The Intensity of Earthquakes Based on Data of Soviet Far Eastern and Continental Stations of USSR

for some of the Far East stations are illustrated in Figs 1 to 4. This calculation was performed for the regions where the intensity M was obtained from more than 10 earthquakes (Tab 2). Fig 5 shows the distribution of the difference $M_{F.E.} - M_{cont.}$ showing a regular pattern. There are 5 figures, 2 tables and 12 references, 8 of which are Soviet, 2 French and 2 English.

ASSOCIATION: Akademiya nauk SSSR, Institut fiziki Zemli
           (AS USSR, Institute of Physics of Earth)

SUBMITTED: April 10, 1958

Card 2/2

SHEIN, V.B. (Perm')

Pickup of the humidity of air. Fiz.v shkole 22 no.5:78 S-O '62.
(MIRA 15:12)
(Hygrometry)

KUZNETSOV, German Ivanovich; FAYN, Genrikh Moiseyevich; SHTAMBURG,
    Valentin Fedorovich; SHEINA, Antonina Aleksandrovna;
    MIKHEYEV, N.I., red.

[Drilling pipes from light alloys] Buril'nye truby iz leg-
kikh splavov. Kuibyshev, Kuibyshevskoe knizhnoe izd-vo,
1964. 51 p.   (MIRA 17:12)

SHEINA, G.N.

Clinical experimental data on the use of ultrasound in bronchial
asthma. Trudy TSIU 77:8-13 '65.   (MIRA 18:9)

1. Kafedra fizioterapii (zav. dotsent A.P. Speranskiy) i IV
kafedra terapii (zav chlen-korrespondent AMN SSSR prof. P.I.
Yegorov) TSentral'nogo instituta usovershenstvovaniya vrachey.

SHEINA, A.N.

Ultrasound and the treatment of bronchial asthma. Trudy TSIU 72:
45-49 '64.   (MIRA 18:11)

1. Kafedra fizicheskoy terapii (zav. - dotsent A.P. Speranskiy),
i IV kafedra terapii (zav. chlen-korrespondent AMN SSSR - prof.
P.I. Yegorov) TSentral'nogo instituta usovershenstvovaniya vrachey.

ZASLAVSKAYA, R.M.; SHEINA, A.N.

Effect of ultrasound on the tonus of bronchial musculature
and hemodynamic indices; experimental studies. Trudy TSIU 72:
50-54 '64.   (MIRA 18:11)

1. 1V kafedra terapii (zav. chlen-korrespondent AMN SSSR, prof.
P.I. Yegorov), i kafedra fizicheskoy terapii (zav. - dotsent
A.P. Speranskiy) TSentral'nogo instituta usovershenstvovaniya
vrachey.

SHEINA, A.K., dotsent

Use of lipocaine in acute and chronic diseases of the liver and
the biliary tract. Vrach. delo no.2:48-53 F '61.   (MIRA 14:3)

1. Kafedra terapii (zav. - prof. G.I.Burchinskiy) stomatologicheskogo
fakul'teta Kiyevskogo meditsinskogo instituta.
            (LIVER—DISEASES)   (BILIARY TRACT—DISEASES)
                      (LIPOCAIC)

YAVORSKAYA, Ye.S., dotsent; SHELIKA, A.K., dotsent; DISSIKALOVA, M.A., dotsent

Probeless determination of gastric juice acidity in glossodynia.
Vrach. delo no.6:45-47 Je '61.   (MIRA 15:1)

1. Kafedra terapevticheskoy stomatologii (zaveduyushchiy - prof. I.O.
Novik), kafedra terapii (zaveduyushchiy - prof. G.I.Burchinskiy)
stomatologicheskogo fakul'teta i kafedra biokhimii (zaveduyushchiy -
prof. Ye.F; Shamray) Kiyevskogo meditsinskogo instituta.
          (GASTRIC JUICE)   (TONGUE—DISEASES)

SHEINA, A.K., dotsent

Clinical observations of the action of phthivazide in Botkin's
disease. Vrach.delo no.8:72-75 Ag '62.   (MIRA 15:11)

1. Kafedra terapii (zav. - prof. G.I.Burchinskiy) stomatologi-
cheskogo fakul'teta Kiyevskogo meditsinskogo instituta.
             (HEPATITIS, INFECTIOUS) (PHTHIVAZIDE)

AFANAS'YEV, G.D.; BORISEVICH, I.V.; SHANIN, L.L.; SHEINA, I.P.

Cases of Ar and K nonequilibrium relations in biotites in
connection with the creation of geological time scale in the
absolute chronology. Izv.AN SSSR.Ser.geol. 28 no.1:19-45
Ja '63.   (MIRA 16:2)

1. Institut geologii rudnykh mestorozhdeniy, petrografii,
mineralogii i geokhimii AN SSSR, Moskva.
                (Potassium-argon dating)

SHEINA, Klavdiya Petrovna; YAKOVLEV, Mitrofan Fedorovich;
—————————TUBOL'TSEV, M., red.; POKHLEBKINA, M., tekhn. red.

   [Taking care of the most important] V zabote o glavnom.
   Moskva, Mosk. rabochii, 1963. 109 p.   (MIRA 16:9)
     (Moscow Province—Efficiency, Industrial)

DRYNOVA, I.A.; KORSHUN, L.L.; SHEINA, L.A.; SHUBINA, I.I.

Use of flat lacquers for furniture finishing. Der.prom. 10
no.11:9-10 N '61.   (MIRA 14:10)
        (Lacquers and lacquering)   (Furniture industry)

ACCESSION NR: AP4044276   S/0192/64/005/004/0583/0589

AUTHOR: Klevtsov, P. V.; Klevtsova, R. F.; Sheina, L. P.

TITLE: Crystalline yttrium hydroxides

SOURCE: Zhurnal strukturnoy khimii, v. 5, no. 4, 1964, 583-589

TOPIC TAGS: yttrium hydroxide, yttrium monohydroxide, single crystal growth, hydrothermal crystal growth, ferrite crystal growth, single crystal structure

ABSTRACT: Transparent colorless crystalline phases previously observed in the products of hydrothermal synthesis of yttrium ferrite single crystals have been identified as yttrium hydroxides, YOOH and $Y(OH)_3$. The crystal structure of these hydroxides was studied goniometrically and by x-ray diffraction, chemical analysis, and other methods. The study was considered necessary for better understanding of the phase equilibria and chemical reactions in hydrothermal systems. The YOOH and $Y(OH)_3$ single crystals used in the study were synthesized in hydrothermal conditions from either $Y_2O_3 \cdot Fe_2O_3 - H_2O - NaOH$ or $Y_2O_3 - H_2O - NaOH$ system. Most of the YOOH single crystals were in the form

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ACCESSION NR: AP4044276

of hexagonal plates belonging to the prismatic class of the monoclinic crystal system and to the $P2_1/m$ space group. Typical $Y(OH)_3$ single crystals were needle-shaped, 1 cm x ~0.6 mm, belonging to the hexagonal system and to the $P6_3/m$ space group. Dimensions of the unit cell were determined for both hydroxides. The piezoelectric effect was not detected in freshly prepared YOOH or $Y(OH)_3$ crystals. The x-ray diffraction patterns of $Y(OH)_3$ crystals were found to be similar to those of $M(OH)_3$, were M is La, Nd, Sm, Gd, or Er. It was concluded that only two crystalline phases—$Y(OH)_3$ and YOOH—are formed, individually or simultaneously, in the $Y_2O_3-H_2O-NaOH$ system below 600C. Orig. art. has: 2 figures and 3 tables.

ASSOCIATION: Institut neorganicheskoy khimii SO AN SSSR, Novosibirsk (Institute of Inorganic Chemistry, SO AN SSSR)

SUBMITTED: 11Jul63   ENCL: 00

SUB CODE: SS, IC   NO REF SOV: 004   OTHER: 006

Card 2/2

L 60923-65   EWT(l)/EWT(m)/EWP(t)/T/EEC(b)-2/EWP(b)   IJP(c)   JD/JG/GG

ACCESSION NR: AP5018925

UR/0363/65/001/006/0912/0917
546.65-36:548.19

AUTHOR: Klevtsov, P. V.; Sheina, L. P.

TITLE: Hydrothermal synthesis and crystal structure of rare earth hydroxides

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 6, 1965, 912-917

TOPIC TAGS: rare earth hydroxide, hydrothermal synthesis, crystal structure

ABSTRACT: Rare earth hydroxides of the composition $M(OH)_3$ for elements from La to Tb and of the composition MOOH for elements from Nd to Lu were synthesized in aqueous NaOH solutions by the hydrothermal method.. The $M(OH)_3$ compounds are stable at a lower temperature than MOOH. The temperature of the $M(OH)_3 \to$ MOOH transformation decreases with increasing atomic number of the rare earth element, from $\geqslant$ 600C for Nd to 120C for Yb. X-ray diffraction studies showed that all of the synthesized trihydroxides have a UCl_3-type structure, and that the mono-hydroxides have a YOOH-type structure. The lattice constants of all the compounds are tabulated. In both the mono- and trihydroxides, the unit lattice parameters decrease as the elements become heavier; this is due to the lanthanide contrac-tion. "The authors thank F. A. Brusentsev and A. N. Rebenko for assistance

Card 1/2

L 60923-65

ACCESSION NR: AP5018925   2

rendered in refining the crystal lattice parameters on a computer by means of a
program which they developed, and V. S. Grigor'yev for measuring the densities
of the hydroxides." Orig. art. has: 1 figure and 4 tables.

ASSOCIATION: Institut neorganicheskoy khimii SO AN SSSR (Institute of Inorganic
Chemistry, SO AN SSSR)

SUBMITTED: 07Dec64   ENCL: 00   SUB CODE: IC, SS

NO REF SOV: 003   OTHER: 003

Card   2/2

L 63620-65   EEC(b)-2/EWT(1)/EWT(m)/EWP(b)/T/EWP(t)   P1-4   IJP(c)   GG/JD/JG
ACCESSION NR: AP5016921   UR/0192/65/006/003/0469/0471
                                               548.736

AUTHOR: Klevtsov, P.V.; Klevtsova, R. F.; Sheina, L. P.

TITLE: Crystalline yttrium hydroxychloride

SOURCE: Zhurnal strukturnoy khimii, v. 6, no. 3, 1965, 469-471

TOPIC TAGS: yttrium compound, yttrium hydroxychloride, crystal structure

ABSTRACT: The chemical composition of crystalline yttrium hydroxychloride was de-
termined. Chemical analysis gave the following results (in wt. %): Y^{3+}, 54. 8; Cl^-, 22. 0;
H_2O + HCl, 31.3. Infrared spectra showed the absence of water of crystallization and the
presence of hydroxyl groups. The results of the chemical analysis led to the formula
$Y(OH)_2Cl$, which was confirmed by an x-ray structural study. The compound belongs to the
rhombic system; its Laue class is D_{2h} - mmm; the unit cell parameters are: a = 6.21 $\pm$
0.03 A, b = 12.54 $\pm$ 0.06 A, c = 3.62 $\pm$ 0.02 A. The average density of the crystals
measured by the flotation method is 3.71 g/cm^3; hence, the unit cell contains four formula
units $Y(OH)_2Cl$ (the x-ray density is 3.73 g/cm^3). X-ray powder diagrams of the $Y(OH)_2Cl$
crystals were also studied. Orig. art. has: 1 table.

Card   1/2

L 63620-65

ACCESSION NR: AP5016921

ASSOCIATION: Institut neorganicheskoy khimii SO AN SSSR, Novosibirsk (Institute of Inorganic Chemistry, SO AN SSSR)

SUBMITTED: 04Apr64   ENCL: 00   SUB CODE: SS, GC

NO REF SOV: 006   OTHER: 000

Card 2/2

KIEVTSOV, P.V.; SHEINA, L.P.

Thermographic and X-ray diffraction study of crystalline
hydroxides of rare-earth elements and yttrium. Izv. AN SSSR.
Neorg. mat. 1 no.12:2219-2226 D '65.   (MIRA 18:12)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya AN
SSSR.

S/075/61/
B106/B147

S 5400

AUTHORS: Gallay, Z. A., and Sheina, N. M.

TITLE: Amperometric titration of vanadium and uranium by salts of
             trivalent titanium

PERIODICAL: Zhurnal analiticheskoy khimii, v. 16, no. 6, 1961, 706-708

TEXT: The authors were the first to use compounds of trivalent titanium
as reagents in amperometric titrations. It had been found earlier that
trivalent titanium oxidized on a rotating platinum microelectrode in the
potential range 0.4-0.9 v, with the diffusion current being proportional
to the titanium concentration (Ref. 4: Peshkova V. M., Gallay Z. A.,
Vestnik MGU, ser. fiz., mat. i estestv. nauk, no. 10, 73 (1954)). Because
of this valuable property and owing to the fact that trivalent titanium
is a sufficiently strong reducing agent (E_0 Ti^{IV}/Ti^{III} = -0.04 v) it can
be used for titrimetric determination of hexavalent uranium

(E_0 UO_2^{2+}/U^{IV} = +0.407 v), tetravalent and pentavalent vanadium in pure

salts and in the presence of tetravalent titanium. The experiments were

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S/075/61/016/006/003/006
B106/B147

Amperometric titration of ...

made in a visual polarograph with an M-21 (M-21) galvanometer (maximum
sensitivity $2.4 \cdot 10^{-9}$ a/mm/m). A rotating platinum microelectrode of
5 mm length was used as indicator electrode, and a saturated calomel
electrode as reference electrode. The reagent solution was obtained by
adequate dilution of a 15% $TiCl_3$ solution with HCl (1 : 1) or 4 N H_2SO_4; ✗

it can be stored for 3 weeks in dark glass vessels. All experiments were
made in purified nitrogen atmosphere. The concentration of the reagent
solution was ascertained by potentiometric or amperometric titration with
a standard solution of potassium bichromate. When ≥ 0.5 N sulfuric acid
is used as a medium, pentavalent vanadium is quantitatively reduced to
trivalent vanadium by trivalent titanium. In a 0.1 M sodium tartrate
solution (pH 5.9) as a medium, vanadium is only reduced to tetravalent
vanadium. Solutions of compounds of trivalent titanium can be used as a
medium for the amperometric titration of tetravalent vanadium both in pure
salts and in the presence of considerable amounts of Cr(III), Mn(II), and
Ti(IV) in 10 N H_2SO_4 (Table 1). Hexavalent uranium is only slowly reduced

by trivalent titanium. Reduction is accelerated by addition of pyro-
phosphoric acid or low amounts of $SnCl_2$. Ye. R. Nikolayeva and Yu. M.

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S/075/61/016/006/003/006

Amperometric titration of ...

B106/B147

Shchekochikhin discovered that addition of pyrophosphoric acid increased
the value of $E_{(VI)/U(IV)}$ from 0.4 to 0.6. Furthermore, pyrophosphoric
acid forms a complex compound with tetravalent titanium and, thus, lowers
the redox potential of the system Ti(IV)/Ti(III). Addition of 0.2-0.3 milli-
liters of 50% $H_4P_2O_7$ in 1 N H_2SO_4 as a medium made it possible to conduct
amperometric titration at E = 0.8 v. The error of determination of
5-10 mg of U does not exceed 1.3%. Thus, uranium can be quantitatively
determined in the presence of considerable amounts of tetravalent
titanium (up to a ratio U : Ti = 1 : 100) in 1 N H_2SO_4 as a medium if the
solution to be titrated contains 1 milliliter of 50% pyrophosphoric acid
per 10 milliliters of solution. Deflection of the galvanometer is
registered 30 seconds after addition of the reagent solution. There are
1 figure, 2 tables, and 7 references: 5 Soviet and 2 non-Soviet. The
reference to the English-language publication reads as follows:
Henrixon W. S.. J. Am. Chem. Soc., 45, 2013 (1923).

Card 3/4

Amperometric titration of ...

29526
S/075/61/016/006/003/006
B106/B147

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V.
Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: October 8, 1960

Table 1. Determination of vanadium in the presence of foreign elements in
10 N H_2SO_4 as a medium.

Legend: (1) foreign elements, mg; (2) V, mg; (3) taken; (4) f . l;
(5) error, %.

Посторонние элементы, мг (1)	(2) V, мг		Ошибка, % (5)	Посторонние элементы (1)	(2) V, мг		Ошибка, % (5)
	взято (3)	определено (4)			взято (3)	определено (4)	
—	0,46	0,45	—2,0	Ti^{IV} —100	0,68	0,63	—7,0
—	1,39	1,38	—0,7	60	2,00	2,06	3,0
Cr^{3+} 10	0,92	0,91	—1,0	— 60	1,00	1,02	2,0
—100	0,92	0,89	—3,0	—104	1,00	1,04	4,0
Mn^{2+} 50	0,68	0,67	—1,4				

Card 4/4

ALIMARIN, I.P.; GALLAY, Z.A.; SHEINA, N.M.; RODIONOVA, T.V.

Current-voltage characteristics of N-benzoylphenylhydroxylamine
solutions. Izv.AN SSSR.Otd.khim.nauk no.3:567-569 Mr '63.
(MIRA 16:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Benzohydroxamic acid)   (Reduction, Electrolytic)

GALLAY, Z.A.; ALIMARIN, I. P.; SHEINA, N.M.

Voltammetric study of benzohydroxamic acid solutions. Izv. AN
SSSR. Ser. khim. no.11:2050-2051 N '63.   (MIRA 17:1)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.

GALLAY, Z.A.; ALIMARIN, I.P.; SHEINA, N.M.

Use of N-benzoylphenylhydroxylamine for the amperometric titration
of titanium, zirconium, gallium, and scandium. Zhur. anal.khim. 18
no.12:1442-1446 D '63.   (MIRA 17:4)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

GALLAY, . .: . . , . . ; CHLEBA, . . ; MOROZOVA, L.A.

Amperometric titration of titanium and zirconium with a solution of neocupferron. Zhur. anal. khim. 19 no.12:1464-1467 '64
(MIRA 18:1)

1. M.V. Lomonosov Moscow State University.

L 14686-66   EWP(e)/EWT(m)/ETC(f)/EWG(m)/T/EWP()   IJP()
ACC NR: AP6005881   (A)   SOURCE CODE: UR/0075/65/020/010/1093/1096

AUTHOR: Gallay, Z. A.; Sheina, N. M.; Alimarin, I. P.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudrastvennyy universitet)

TITLE: Amperometric determination of gallium in gallium arsenide and phosphide

SOURCE: Zhurnal analiticheskoy khimii, v. 20, no. 10, 1965, 1093-1096

TOPIC TAGS: gallium arsenide, phosphide, amperometric titration, gallium, arsenic, graphite microelectrode, electrolyte , volt ampere characteristic

ABSTRACT: The applicability of the amperometric method to the determination of GaAs and GaP in samples of minimum possible weight was studied using a rotating graphite microelectrode and the reagent N-benzoylphenylhydroxylamine (N-BPHA) for the amperometric titration of gallium. A preliminary study of the volt-ampere characteristics of N-BPHA on a graphite electrode was made; oxidation waves of N-BPHA were obtained, and the dependence of $E_{1/2}$ on the hydrogen ion concentration was determined. For acid background electrolytes, the diffusion current was found to be proportional to

UDC: 543.24

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L 14686-66
ACC NR: AP6005881   2

concentrations up to $1 \cdot 10^{-3}$ M N-BPHA, and the oxidation current of N-BPHA was found
to be much more stable on a graphite electrode than on a platinum electrode. Gal-
lium was determined by means of the oxidation current of N-BPHA at pH 3 by ampero-
metric titration in the presence of arsenic (III), at a graphite electrode potential
of 1.1 V. The accuracy of the determination is high up to a Ga/As ratio of 1/1.5.
Arsenic (III) was determined in the presence of gallium by amperometric titration
with potassium bromate. In the case of the semiconductor GaP, gallium was determin-
ed with sufficient accuracy up to a Ga/P ratio of 1/1.5. Orig. art. has: 1 figure,
5 tables.

SUB CODE: 07/   SUBM DATE: 27Oct64/   ORIG REF: 004/   OTH REF: 000

Card 2/2

GORTINSKAYA, T.V.; SHEINA, N.P.; SHCHUKINA, M.N.

Determination of the dissolution properties and the mechanical hardness
of tablets. Materials for the 9th edition of the State Pharmacopoeia
of the U.S.S.R. Med. prom. 14 no.9:15-23 S '60.   (MIRA 13:9)
                    (TABLETS (MEDICINE))
            (DRUG INDUSTRY—EQUIPMENT AND SUPPLIES)

GORTINSKAYA, T.V.; SHEINA, N.P.; SHCHUKINA, M.N.

Some derivatives of 3-methoxy-6-(sulfanilamido)-pyridazine. Med.
prom. 14 no.9:23-25 S '60.   (MIRA 13:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy
institut imeni S. Ordzhonikidze.
                        (PYRIDAZINE)

L 14839-65   EWT(1)/EWG(k)/EWT(m)/EWP(j)/EEC(t)   Pc-4/Pz-6   IJP(c)   AFMD(t)
AT/RM
ACCESSION NR: AP4048434   S/0181/64/006/011/3474/3475

AUTHORS: Avdeyenko, A. A.; Naboykin, Yu. V.; Sheina, S. P.

TITLE: Effect of external field on the spectrum of the inhomo-
geneous photoconductivity in pyrene single crystals

SOURCE: Fizika tverdogo tela, v. 6, no. 11, 1964, 3474-3475

TOPIC TAGS: photoconductivity measurement, carrier recombination,
carrier lifetime

ABSTRACT: To trace the influence of an external field on the spec-
tral curve of the photocurrent of a layer-type photocell (in which
the illumination passes through a transparent electrode along the
applied field), the authors used single-crystal pyrene purified by
sublimation, a DMR-4 double monochromator, a DKSSh-200 electronically
stabilized xenon lamp, and a U1-2 electrometric amplifier. The re-
sults indicate that at low fields there is only weak separation of

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L 14839-65
ACCESSION NR: AP4048434

2

the charges and their recombination rate is high if their density in
the generation region is high. The anticorrelation between the
photoconductivity and absorption spectra in weak fields is attributed
to the decrease in the carrier lifetime in the region of strong ab-
sorption. Favoring this conclusion is also the behavior of the spec-
tral curve when the illumination is applied from the side of the
negative electrode, where the field has a smaller effect, because
the drift mobility of the electrons in pyrene is much smaller than
the drift mobility of the holes. "The authors thank V. V. Yeremenko
for a discussion." Orig. art. has: 1 figure.

ASSOCIATION: Fiziko-tekhnicheskiy institut nizkikh temperature AN
UkrSSR, Khar'kov (Physicotechnical Institute of Low Temperatures,
AN UkrSSR)

SUBMITTED: 09Jun64   ENCL: 00

SUB CODE: SS, OP   NR REF SOV: 003   OTHER: 008

Card 2/2

AVDEYKIN , A.A., BARADIN, Yu.V.: SHEKA, E.F.

Effect of an external field on the spectrum of nonuniform photo-conductivity in Pyrene single crystals. Fiz. tver. tela 6 no.11: (MIRA 18.1)
3474-3476 N '64.

1. Fiziko-tekhnicheskiy institut nizkikh temperatur AN UkrSSR,
Khar'kov.

S/141/61/004/006/013/017
E192/E382

7.9 300 (1331, 1159, 1385, 1139)

AUTHORS: Peskovatskiy, S.A. and Sheina, T.G.

TITLE: Measurement of the permittivity of small samples at
               UHF

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,
               Radiofizika, v. 4, no. 6, 1961, 1099 - 1103

TEXT: The paper was read at the conference of MV and
SSO SSSR for radio-electronics, Khar'kov, 1960.
The possibility of measuring the permittivity ε of very small
samples, such that the maximum dimension of the sample 2a is
much less than the wavelength λ, is of considerable practical
interest. For a sample having the form of an ellipsoid of
revolution situated in an electric field E_o which is parallel
to the longer axis a of the sample, the frequency deviation in
the measuring resonator is expressed by (Ref. 5 -
A.L. Mikaelyan - Radiotekhnika, 10, 1, 23, 1956):

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Measurement of S/141/61/004/006/013/017
                                       E192/E382

$$\frac{f_0^2 - f^2}{f_0^2} = \frac{\Delta\varepsilon}{1 + R\Delta\varepsilon} \frac{E_0^2 v}{\int_V E_0^2 dv} = pF,$$

(2)

where $\angle\varepsilon = \varepsilon/\varepsilon_0 - 1$,

ε_0 is the permittivity of the medium in which the
        sample is situated, and
v is the volume of the sample.
The remaining symbols in Eq. (2) are defined by:

$$p = \frac{\Delta\varepsilon}{1 + R\Delta\varepsilon}; \quad F = \frac{E_0^2 v}{\int_V E_0^2 dv};$$

$$R = \left(\frac{c}{a}\right)^2 \left[\frac{1}{2} \ln \frac{1 + \sqrt{1 - (c/a)^2}}{1 - \sqrt{1 - (c/a)^2}} -$$

(3)

$$- \sqrt{1 - \left(\frac{c}{a}\right)^2}\right] \left[1 - \left(\frac{c}{a}\right)^2\right]^{-3/2};$$

Card 2/6

Measurement of

S/141/61/004/006/013/01
E192/E582

where $0.1 \leqslant c/a \leqslant 1$ and the quantity R can be expresssed by

$$R \simeq -0.03 + 0.46(c/a) - 0.1 (c/a)^2 \qquad (3a)$$

where c is the small axis of the ellipsoid. On the basis of the above equations it is shown that the real and the imaginary components of ε can be expressed by

$$\varepsilon' = 1 + \frac{1}{F/2\eta - R} \qquad (7)$$

$$\varepsilon'' = \frac{(1 + R\Delta\varepsilon')^2}{Q_\varepsilon F} \qquad (8)$$

where $1/Q_\varepsilon = 1/Q_{0\varepsilon} - 1/Q_0$, where $Q_{0\varepsilon}$ and Q_0 are the

Card 3/6

33226

Measurement of ....

S/141/61/004/006/013/017
E192/E382

quality factors of the resonator with and without the sample
respectively The parameter R can be determined graphically
(Fig. 1) It is shown by analyzing the measurement conditions
that the main error in measuring ε' is due to the deviation
of the sample from its ellipsoidal form. On the other hand
the error in the measurement of ε'' is primarily due to the
error in determining the quality factor of the resonator without
load   The errors in measuring ε' were investigated experi-
mentally with parallelopiped samples of identical weight. It
was found that for the cylindrical samples the measurement error
of ε did not exceed 10%. On the other hand, when compared
with the waveguide method of measurement, the above small sample
method resulted in a discrepancy of not more than 4%. It is
therefore concluded that the small-sample method can be used
successfully for the measurement of ε . the errors of measure-
ment are comparable with those of the waveguide method
   Further the small-sample method has the advantage that very
small samples can be employed and that interpretation of the
results is not more complex than that in the other methods
Card 4/5 .

Measurement of ....

S/141/61/004/006/013/017
E192/E382

The authors express their gratitude to A.N. Chernets for valuable advice and for his interest in this work.
There are 1 figure, 3 tables and 7 references: 5 Soviet-bloc and 2 non-Soviet-bloc. The two English-language references mentioned are: Ref. 4 - H.B.G. Casimir - Phys. Res. Rep., 6, 162, 1951; Ref. 7 - L.C. Maier, J.C. Slater, J. Appl. Phys., 23, 68, 1952.

ASSOCIATION: Institut radiofiziki elektroniki AN UkrSSR
(Institute of Radiophysics and Electronics of the AS UkrSSR)

SUBMITTED: February 3, 1961

Card 5/5

28176

S/190/61/003/010/004/019
B130/B110

15.9150

AUTHORS: Korshak, V. V.; Krongauz, Ye. S.; Sheina, V. Ye.

TITLE: Studies in the field of coordination polymers VI
              Synthesis of coordination polymers of some bis-(β-diketones)

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 10, 1961,
              1456-1461

TEXT: The authors synthesized aliphatic bis-(β-diketones), 1,1,2,2-
tetraacetyl ethane (I), adipyl- (II), and sebacyl diacetophenone (III), and
prepared and studied their metal polymers. They prepared I from a
suspension of 0.5-mole Na-acetyl acetonate in ether by adding a solution
of 0.5-mole iodine in ether at room temperature under vigorous stirring.
The melting point was 185-186°C, the yield 27-30%. II and III were
prepared according to V. V. Korshak et al. (Vysokomolek. soyed., 1, 1764,
1959). The melting point of III was 108-109.5°C (Yield 20-22%) The
metal polymers of the bis-(β-diketones) produced were prepared by 3-hr
heating in a vacuum of 2-4 mm Hg of their equimolecular mixture with the

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S/190/61/003/010/004/019
B130/B110

Studies in the field of coordination ...

respective Me-acetyl acetonate at 150-210°C until no acetyl acetone was
set free. To remove the remaining acetyl acetone, the resulting product
was treated with hot water, boiled in alcohol, washed with ether, and
dried to constant weight. The copper derivatives were obtained by
reaction of the diketones with copper acetate in an alcohol solution. It
was found that I with Be-, Ni-, Co-, and Zn-acetyl acetonates formed
nonfusible powders which were unsoluble in ordinary organic solvents and
had a high decomposition temperature. I formed no coordination compounds
with Mn and Cd. The chemical analysis showed that the composition of the
resulting metal compounds corresponded to the theoretical values. Also
the metallic derivatives of II and III constituted colored powders. The
Be-derivatives of III, and the Be-, Zn-, and Cd-derivatives of II, are
soluble in chloroform, tetrachloro ethane, dioxane, bromo benzene, and
dimethyl formamide, the Ni- and Co-derivatives only in dimethyl formamide
and dioxane. The peculiarities of these compounds are explained according
to Hammond, Borduin, and Guter (see below). In the interaction between
tetraacetyl ethane and the metal ions, a coordination binding of the
metal takes place between the keto groups of adjacent molecules of the X

Card 2/4

28176

S/190/61/003/010/004/019
Studies in the field of coordination ...   B130/B110

binding agent (Fig. 1). In II, and particularly in III, the formation
of closed, monomeric complexes is probable because of the presence of
a flexible methylene chain (Fig. 2). There are 2 figures, 7 tables, and
6 references: 2 Soviet and 4 non-Soviet. The four references to English-
language publications read as follows: R. G. Charles, Organic Syntheses,
39, 61, 1959; G. S. Hammond, W. G. Borduin, G. A. Guter, J. Amer. Chem.
Soc., 81, 4682, 1959; G. A. Guter, G. S. Hammond, J. Amer. Chem. Soc.,
81, 4686, 1959; G. J. Bullen, Acta crystallogr., 12, 703, 1959.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR
                (Institute of Elemental Organic Compounds AS USSR)

SUBMITTED: October 25, 1960

Fig. 1. Model of a 1,1,2,2-tetraacetylene ethane complex with metal,
, carbon, o --hydrogen,)-- oxygen, -- metal.

Fig. 2. Model of a sebacyl diacetophenone complex with metal. Designations
as in Fig. 1.

Card 3/4

SHEVINA, T.G.

35095

S/185/62/007/001/003/014

24.7100 (1454, 1153, 1160)

AUTHORS: Vyeskovats'kyy, S.A., Chernets', A.A., Rostohvard, M.I., Shevina, T.G., and Oliynyk, I.M.

TITLE: Growing of lanthanum ethyl sulfate single crystals with gadolinium- and cerium ethyl sulfate impurities and some of their physical properties

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 7, no. 1, 1962, 22 - 29

TEXT: The method of preparation, growing technique and measurement of the dielectric constants of lanthanum ethyl-sulfate with gadolinium- and cerium ethyl-sulfate impurities, is described. These crystals are paramagnetic substances by means of which ultra-high frequencies can be amplified. The salts of the rare-earth elements of ethylsulfuric acid were prepared by mixing equivalent amounts of the rare-earth element sulfate and barium ethylsulfate in a solution. The single crystals were grown by gradually cooling the saturated solution, over a period of 10 - 12 days; the crystals were 15 - 20 mm.

Card 1/3

Growing of lanthanum ethyl sulfate ...   S/185/62/007/...../005/014
                                            D299, D302

long and 14 - 15 mm thick. It is important to properly select the
rate of temperature decrease, as at high rates an opaque solution is
formed and the crystal becomes inhomogeneous. The shape of the cry-
stals depends on the concentration of the solution; thus, some of
the crystals were hexagonal prisms and (with higher gadolinium-ethy-
sulfate concentration) others were hexagonal double-pyramids. The
crystals grown from pure solutions were stable in air and in a va-
cuum, during repeated cooling from room temperature to that of li-
quid helium, followed by heating to the original temperature. The
dielectric constants (permittivity ε' and the tangens of the dielec-
tric-loss angle tg $\delta = \varepsilon''/\varepsilon'$) were measured at a frequency f of
9000 Mc, over a temperature range of 290 - 4.2°K. In the literature,
no such data were previously given. The method of measurement was
based on the perturbation of the resonator through introducing small-
size specimens into its high-frequency field. This permitted measur-
ing at each temperature point the perturbed and unperturbed values
of the natural frequency and Q-factor of the resonator by simply mo-
ving the specimen from the region with maximum field-strength to
that where the field practically vanishes. The permittivity ε' va-

Card 2/3

Cooling of lanthanum ethyl sulfate ...   S/105/62/007/001/ /

ml from 3.4 (at 20°C) to 2.7 (at liquid-helium temperature). The
measurement error did not exceed 3 %. The ... authors ...
curve of ... showed that the g decreases fairly rapidly with temper-
ature, from $5 \cdot 10^2$ (at room temperature) to $1.5 - 2 \cdot 10^{-3}$ (at liquid-
helium temperature). There are 5 figures and 9 references: 5 Soviet-
bloc and 4 non-Soviet-bloc (including 1 translation). The referenc-
es to the English-language publications read as follows: ...
G... , H.C. Schulz-Dubois, H.E.D. Scovil, Bell Syst. Techn. ..., ...
305, 1959; J.R. Singer, Ph.D., "Masers", NewYork, London, 1959.

ASSOCIATION: Instytut radiofizyky ta elektroniky AN URSR (Institute
of Radiophysics and Electronics of the AS UkrRSR),
Kharkiv

SUBMITTED: March 14, 1961

Card 3/3

L 22651-65   EWT(m)/EPF(c)/EWP(j)   Pc-4/Pr-4   RM/MLK

ACCESSION NR: AT5002130   S/0000/64/000/000/0173/0177   B+/

AUTHOR: Korshak, V. V.; Krongauz, Ye. S.; Gribkova, P. N.; Sheina, V. Ye.;
Vasnev, V. A.

TITLE: Synthesis of bis-(beta-diketones)

SOURCE: AN SSSR. Institut neftekhimicheskogo sinteza. Sintez i svoystva monomerov
(The synthesis and properties of monomers). Moscow, Izd-vo Nauka, 1964, 173-177

TOPIC TAGS: diketone synthesis, beta-diketone, aromatic diketone, diketone polymeri-
zation, organometallic complex, boron trifluoride, acetoacetylation

ABSTRACT: A direct method has been developed for preparing aromatic bis-(β-dike-
tones) which can be polymerized to give coordination-bonded metal complexes, and a re-
action mechanism for the ketone synthesis has been proposed. The aromatic compounds
are acetoacetylated in the presence of boron trifluoride with acetic anhydride. 4,4-Bis-
(acetoacetyl)diphenyloxide was derived from diphenyloxide as shown by the following
equation:
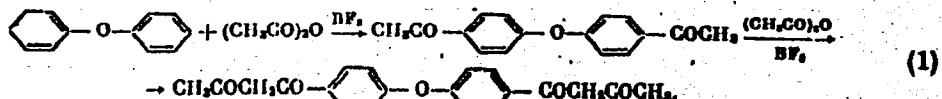
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and by similar reactions the 4,4-bis-(acetoacetyl)- derivatives of diphenylmethane, di-
phenylethane, and of the diphenyl ethers of ethylene- and diethylene glycol were obtained.
The best results were obtained when boron trifluoride was rapidly added to the reaction
system and this effect was shown to be related to the proposed reaction mechanism.
Diacetylated ketones formed by the first reaction step are further acetylated either by
direct C-acetylation, or via O-acetylation of diketones and subsequent C-acetylation of
the ester formed with the enol of the diketones. The first route is exclusive during the
initial reaction period, while the second can become dominant as the acid concentration
increases. Infrared analysis showed that only p-derivatives are formed and that the
bis-(β-diketones) exist only in their enol form. Their reaction, either in the melt with
acetylacetonates or in solution with the acetates of Be, Cu, Ni, Zn, Mn, Co and Cd,
yielded coordination chain polymers, most of which were highly colored and infusible
powders which were insoluble in conventional organic solvents at 200-400C. Orig. art.
has: 11 formulas.

ASSOCIATION: None

SUBMITTED: 30Jul64   ENCL: 00   SUB CODE: OC, GC

NO REF SOV: 006   OTHER: 010

Card   2/2

ACCESSION NR: AP4042473

AUTHOR:

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ACCESSION NR: AP4042875

... hydrazide, which is accompanied by separation of water,
... formation of polypyrazoles by separation of a water molecule
... ... Polyhydrazones are prepared by heating
... ... the initial materials in absolute ethanol for
... ... polypyrazoles are formed by heating polyhydrazones at
... ... at 1—2 mm Hg for 3—5 hr. Polypyrazoles are
... soluble in cresol, dimethylformamide, and concen-
... ... formic acids. They melt with decomposition at
... and thus do not exhibit the expected heat resistance. A
... was synthesized in one step by reacting 4,4'-bis(aceto-
... ... with the dihydrazide of adipic acid in boiling
benzyl alcohol. ... to synthesize polypyrazoles in melts failed,
... the properties and structure of the synthesized poly-
pyrazoles ... concluded that changes in the structure of the poly-
mer ... with the aim of increasing its rigidity will increase
the melting point of the polypyrazoles. Orig. art. has: 2 tables.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii
nauk SSSR (Institute of Organoelement Compounds, Academy of
Sciences SSSR)

SHILIN, Z.G.

Using electrodialysis for studying bleached rocks. Trudy Gor.-
geol. inst UFAN SSSR no. 42:153-159 '59.   (MIRA 14:2)
                    (Mineralogical chemistry)

SHEIINA, L.G.

Kur'inskiy porous siliceous rocks as adsorbents. Trudy Gor.-
geol. inst. UrAf SSSR no. 35:277-289 '60.   (MIRA 14:1)
    (Kur'inskiy region (Sverdlovsk Province)--Rocks, Siliceous)
                (Adsorbents)

SHEINA, Z.G., kand.khimicheskikh nauk

Study and selection of wetting agents for coals of Yegorshino District by use of the method of capillary absorption. Sbor. rab. po silik. no.2:29-39 '60.   (MIRA 14:3)

1. Gorno-geologicheskiy institut Ural'skogo filiala AN SSSR.
   (MINE DUSTS)   (WETTING AGENTS)

SHEINA, Z.G., kand.khimicheskikh nauk; PONOMAREVA, L.K.

Study of the kinetics of wetting dust from quartz-bearing rocks
by means of capillary absorption. Sbor, rab. po silik. no.2:115-
124 '60.   (MIRA 14:3)

1. Gorno-geologicheskiy institut Ural'skogo filiala AN SSSR.
          (MINE DUSTS)   (WETTING AGENTS)

VYALUKHIN, G.I.; SHEINA, Z.G.

Swelling as a diagnostic feature in determining the mineral
composition of clays. Trudy Gor.-geol.inst. UFAN SSSR no.56:155-159
'61.   (MIRA 15:7)
                        (Clay—Analysis)

KOCHNEV, K.V., prof., doktor tekhn.nauk; SHEINA, Z.G., kand.khimicheskikh nauk;
FEDOROVA, G.G., kand.khimicheskikh nauk

Preventing dust formation and keeping down floating dust in the
Korkino open-pit mine. Sbor. rab. po silik. no.3:109-117 '61.
(MIRA 15:10)

1. Gorno-geologicheskiy institut Ural'skogo filiala AN SSSR.
        (Chelyabinsk Basin—Mine dusts)

KOCHNEV, K.V., prof., doktor tekhn.nauk; SHEINA, Z.G., kand.khim.nauk;
FEDOROVA, G.G., kand.khim.nauk

Wetting agents and saline additives as means of controlling the
process of dust prevention. Bor'ba s sil. 5:21-27 '62.
(MIRA 16:5)

1. Gorno-geologicheskiy institut Ural'skogo filiala AN SSSR.
(Mine dusts—Prevention)

SHEINFAYN, R.Yu.; KRUGLIKOVA, N.S.; STAS', O.P.; NEYMARK, I.Ye.

Mechanism of the formation of a porous silica gel structure. Part 1:
Effect of the acid treatment of hydrogel on the size and packing density
of xerogel particles. Koll.zhur. 25 no.6:732-738 N-D '63.
                                                    (MIRA 17:1)

1. Institut fizicheskoy khimii AN UkrSSR imeni Pisarzhevskogo, Kiyev.

SHEINKER, A.P.; ABKIN, A.D.

Mechanism of radiation polymerization. Part 1: Mechanism of gamma-
ray induced carbonium polymerization of isobutylene and styrene.
Vysokom.soed. 3 no.5:716-723 My '61.   (MIRA 14:5)

1. Fiziko-khimicheskiy institut imeni L.Ya.Karpova.
   (Polymers, Effect of radiation on) (Propene) (Styrene)

L 56540-65

ACCESSION NR: AP5016786

UR/0286/65/000/010/0119/0119

629.113—585.2

AUTHOR: Lefarov, A. Kh.; Sheinker, I. G.; Girko, M. D.; Gubitskiy, A. A.

TITLE: A transmission.   Class 63, No. 171278

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 10, 1965, 119

TOPIC TAGS: transmission, engine equipment, clutch

ABSTRACT: This Author's Certificate introduces: 1. A transmission designed prin-
cipally for trucks and caterpillar tractors. Provision is made for shifting gears
without interrupting the power flow by using multidisc friction clutches mounted on
rotating shafts. The unit contains an input shaft, two coaxial output shafts which
are joined by a differential and are parallel to the input shaft, and intermediate
shafts, one coaxial with the input shaft and one with the output shaft. The trans-
mission has relatively small overall dimensions. The first intermediate shaft,
which is not coaxial with the input shaft, is hollow and encircles one of the output
shafts, which passes through it. This intermediate shaft has a multidisc friction
clutch mounted on it. The driven elements of this clutch are connected to the dif-

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ACCESSION NR: AP5016786

ferential housing, while the drive elements are connected to the first intermediate
shaft.   The differential housing is connected through continuously engaged gears to
the intermediate shaft which is coaxial with the input shaft.   These gears are en-
gaged by the multidisc friction clutch mounted on the intermediate shaft.   2. A
modification of this transmission with reduced axial dimensions.   The multidisc
friction clutch mounted on the intermediate shaft which is coaxial with the input
shaft is a double clutch in the form of two separate multidisc friction clutches.
The clutch housings are connected to the drive elements, and the common hub for the
clutches, which is connected to the driven elements, has a gear which is rigidly
connected to the differential housing.

ASSOCIATION: none

SUBMITTED: 08Feb63   ENCL: 01   SUB CODE: PR

NO REF SOV: 000   OTHER: 000

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L 56540-65

ACCESSION NR: AP5016786

ENCLOSURE: 01
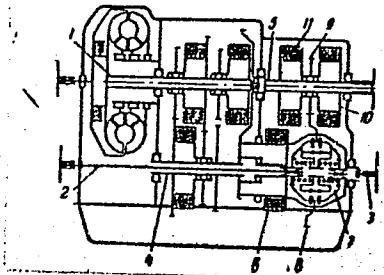
Fig. 1. 1--input shaft; 2 and 3--output
shaft; 4 and 5--intermediate shaft;
6--multidisc friction clutch; 7--differen-
tial housing; 8 and 9--constantly engaged
gears; 10 and 11--multidisc friction
clutch housings

Card 3/3

KUNEV, St.; SHEINKMAN, M.; FURSENKO, V.

A method for the noncontact studies of the conductivity
phenomena in the cadmium sulfide semiconductors. Izv fiz
atom BAN 10 no.2:29-36 '62.

L   T/   c)

ACC NR: AP6018336   SOURCE CODE: GE/0030/66/013/001/0025/0036

AUTHOR: Korsunskaya, N. E.; Markevich, I. V.; Sheinkman, M. K.

ORG: Institute of Semiconductors, Academy of Sciences of the
Ukrainian SSR, Kiev

TITLE: Photochemical reactions in CdS single crystals at low
temperatures

SOURCE: Physica status solidi, v. 13, no. 1, 1966, 25-36

TOPIC TAGS: photoconductivity, recombination reaction, electron
trapping, low temperature effect, photochemical reaction, cadmium
sulfide crystal, glow curve, recombination center, photochemistry

ABSTRACT: The investigation of glow curves under various illumina-
tion conditions in cadmium sulfide single crystals (previously annealed
at high temperatures) shows that the photochemical formation of new
trapping centers arises at +20 to -100C. In the same temperature
range, the new "sensitizing" recombination centers, having small
capture cross sections for electrons, also arise due to the photo-

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L 36260-66

ACC NR: AP6018336

chemical reaction. This causes the photoconductivity to be increased by a factor of 2 to 100. The investigation of the kinetics of trapping and recombination processes by various methods makes it possible to determine a number of parameters for the new trapping and recombination centers. The authors thank Professor V. E. Lashkarev for his interest in this work and valuable discussions and Dr. W. Borchardt and Dr. J. Voigt for helpful discussions. Orig. art. has: 6 figures, 2 formulas, and 1 table. [Based on authors' abstract]   [NT]

SUB CODE: 20/   SUBM DATE: 03Sep65/   ORIG REF: 006/   OTH REF: 015

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